**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 41

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

**Ex parte** YASUSUKE IWASHITA

Appeal No.1999-1578
Application 08/764,508[1]

ON BRIEF

Before BARRETT, F LEMING, and GROSS, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

## DECISION ON APPEAL

This a decision on appeal from the final rejection of claims 1, 2 and 4, all of the claims pending in the present application. Claim 3 has been canceled.

[1] Application for patent filed December 12, 1996. According to Appellant, this application is a continuation of Application 08/313,279, filed October 5, 1994, now abandoned, which is a National Stage application under 35 U.S.C. 371 of PCT/JP94/00150, filed February 2, 1994.

The invention relates to a method of detecting an abnormal load acting on a servomotor which drives a cutter of a machine tool or a robot arm and controlling the servomotor when such abnormal load is detected.

Independent claim 1 is reproduced as follows:

1. A method of detecting an abnormal load on a servomotor driving a machine and controlling the servomotor in such an abnormal condition, comprising the steps of:

(a) rotating a servomotor in a first direction to drive a machine tool;

(b) detecting an abnormal load acting on the servomotor during a driver operation and due to a large torque developed by the rotation of said servomotor in said first direction when an obstacle collides with said machine tool causing an elastic deformation on said machine tool;

(c) executing a position loop processing using an error register for storing a positional deviation value;

(d) setting a predetermined positional deviation having a direction opposite to said first direction in said error register when said abnormal load is detected; and

(e) rotating the servomotor in the direction opposite to the first direction by a predetermined rotational amount corresponding to said predetermined positional deviation and then stopping the servomotor, to release said elastic deformation of said machine tool.

Examiner relies on the following references:

| | | |
|---|---|---|
| Eto et al. (Eto) | 4,580,085 | Apr. 1, 1986 |
| Arita et al. (Arita) | 5,304,906 | Apr. 19, 1994 (filed Aug. 23, 1991) |

Claims 1, 2 and 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Arita and Eto.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the brief but no one can answer for the respective details thereof.[2]

**OPINION**

We will not sustain the rejection of claims 1, 2 and 4 under 35 U.S.C § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l, Inc***., 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), ***cert. denied***, 519 U.S. 822 (1996), ***citing W.L. Gore & Assocs., Inc. v. Garlock, Inc***., 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), ***cert. denied***, 469 U.S. 851 (1984).

Appellant argues on pages 8 and 9 of the brief that neither Arita nor Eto, either alone or in combination, discloses or suggests the features recited in each of independent claims 1 and 4. In particular, Appellant argues that neither reference teaches or suggests setting a predetermined positional

[2] Appellant filed an appeal brief on August 13, 1998. Appellant filed a reply brief on December 9, 1998. The Examiner mailed a letter on December 23, 1998 stating that the reply brief has been enter and considered. There is no further response by the Examiner.

deviation or rotating the servomotor in the direction opposite to the first direction to release the elastic deformation of said machine tool. We note that Appellant's independent claim 1 recited step "(d) setting a predetermined positional deviation having a direction opposite to said first direction in said error register when said abnormal load is detected." Furthermore, we note that Appellant's independent claim 1 recited step "(e) rotating the servomotor in the direction opposite to the first direction by a predetermined rotational amount corresponding to said predetermined positional deviation and then stopping the servomotor, to release said elastic deformation of said machine tool." We find similar language in Appellant's claim 4 in steps (f) and (g).

On page 5 of the answer, the Examiner responds to Appellant's arguments by stating that Eto discloses in embodiment 2 the step of reversing for a select amount determined by the formula (1) on column 4. On page 6 of the answer, the Examiner argued that although it is true that Eto does not disclose that the reason for reversal is to release elastic deformation of a machine tool, the claimed exact intended use is not required to make this rejection.

Appellant responds to the examiner's answer on page 4 of the reply brief stating that "the Eto formula is not predetermined but is variable." Appellant further responds that claims 1 and 4 positively recite a step of rotating the servomotor in the direction opposite to the first direction by a predetermined rotational amount to release the elastic deformation of the machine tool. Appellant argues that this claim language cannot be ignored by the Examiner.

As we have pointed out above, Appellant's claims do recite the limitation of rotating the servomotor such as to release the elastic deformation of the machine tool. In addition, we know that the claims require the predetermined positional deformation to be a value that is sufficient to cause the servomotor to release the elastic deformation of the machine tool. Therefore, we find that the claims do positively recite a limitation that a predetermined deviation must be a sufficient value so that it would cause the servomotor to release elastic deformation of the machine tool. Furthermore, we agree with the Appellant that the formula disclosed in column 4 of Eto does not meet Appellant's claimed predetermined positional deviation, because Eto uses a variable not a predetermined value. Therefore, we do not sustain the examiner's rejection of claims 1, 2 and 4 under 35 U.S.C. § 103.

We have not sustained the rejection of claims 1, 2 and 4 under 35 U.S.C. § 103.

Accordingly, the Examiner's decision is reversed.

**REVERSED**

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|---|---|
| LEE E. BARRETT | ) |
| Administrative Patent Judge | ) |
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| | ) |
| | ) BOARD OF PATENT |
| MICHAEL R. FLEMING | ) |
| Administrative Patent Judge | ) APPEALS AND |
| | ) |
| | ) INTERFERENCES |
| | ) |
| ANITA PELLMAN GROSS | ) |
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